PRODUCT FACT SHEET

MIX WIRELESS ASSET TRACKER – RELEASE 2

Overview

The MiX Wireless Asset Tracker is a low-profile, rugged 2G or 4G (Cat-M1/NB-IoT) GPS tracking device designed for tracking of non-powered assets, trailers or any other asset where long battery life is required without sacrificing the frequency of update. The MiX Wireless Asset Tracker makes use of removable off-the shelf batteries for easy maintenance and reduced cost.

The Remora2, Oyster2 and Yabby wireless asset trackers to satisfy the MiX Asset Management Solution in the market. The main difference between these devices are in size and battery type. Which will translate into cost and life expectancy difference between them.

Features

MiX Wireless Asset Tracker Features	
Rugged weather proof housing	The IP67 rated housing is made of sturdy ABS/Polycarbonate plastic to survive bumps, knocks, and many years in the outside elements. It is low-profile making it easier to mount on an asset.
High sensitivity GPS	With the new Ublox module this device is capable of supporting GPS and GLONASS signals. The Mix Wireless Asset Tracker uses both these satellite signals to ensure accurate GPS fix positions.
GSM Connectivity	Both 2G and 4G (LTE Cat-M1/NB-IoT) options are available.
3D Accelerometer	A 3-axis accelerometer allows the Mix Wireless Asset Tracker to “sleep” in an ultra-low power state, but still wakeup when movement is occurs.
Wireless	Being powered by off-the-shelf batteries, the Mix Wireless Asset Tracker eliminates the need to be connected to an external Power Source, making installation option more flexible. The low battery warning notification allows better management of maintenance schedules.
Track your assets	Track your assets movements. When out of GSM coverage data will be stored on device until GPRS connection have been recovered.
Trip Data Recording	Replay routes taken on street level or satellite maps. The following data is recorded: Date and time; distance travelled (server calculated); journey duration; battery level.
Server Side Events	Be notified via email and/or text message, when selected standard or user-defined events occur.

Technical Specifications

Type	Remora2	Oyster2	Yabby
Dimension	224mm x 91mm x 41mm 8.8" x 3.6" x 1.6"	138mm x 72mm x30mm 5.4" x 2.8" x 1.9"	85mm x 63mm x 24mm 3.3" x 2.5" x 0.9"
Environmental *	IP67 rated housing ; ABS/Polycarbonate Plastics		
SIM card size	Nano-SIM (4FF)	Micro-SIM (3FF)	Nano-SIM (4FF)
Battery Size	2 x D-Cell	3 x AA	3 x AAA
Battery Type: Preferred**	Lithium Thionyl Chloride (LTC)		Lithium Iron Disulfide
Battery Type: Alternative**	n/a	Lithium Iron Disulfide	n/a
Battery Voltage	Max 16V		Max 6V
Reverse Voltage Protection	NO		
Heartbeat Mode (4G)	Up to 10 years	Up to 7 years	Up to 3 years
Heartbeat Mode (2G)	Up to 5 years	Up to 3.5 years	Up to 1.5 years
Standard Tracking ***	24 months (estimates)	9-12 months (estimated)	3-6 months (estimated)
AVL rate	2min		15min
Data Upload	Trip Start 30min In trip Trip End		Trip Start - Trip End
Connectivity	**2G Modem :** SARA-350-02S-01 [850/900/1800/1900 MHz] **4G Cat-M1/NB-IoT Modem:** SARA-410M [LTE bands:1-5,6,8,12,13,17,19,20,25,26,28]		
Tamper Detect	Magnetic Tamper option	Not Applicable	
Operating Temperature	Refer to the operating temperature of the selected batteries! The PCB and enclosure are designed for -20°C to +60°C.		
GPS	UBLOX EVA-M8 Supports concurrent GPS and GLONASS 72 channel high sensitivity receiver -167dBm industry leading tracking performance		
Low Noise GPS amplifier	GPS signals are boosted by a special low-noise amplifier (LNA). This allows the device to operate where normal units will fail to receive GPS signal.		
Internal Antennas	Internal GSM and GPS Antenna Having the primary antennae inside the housing makes for simple and quick installation		
3-axis Accelerometer	The 3-axis accelerometer allows the unit to ‘sleep’ in an ultralow power state yet still wakeup when movement occurs.		
Flash Memory	50,000 data records can be stored out of coverage.		25,000 data records can be stored out of coverage
Auto-APN	Auto-APN allows the devices to analyse the SIM card and select the correct APN details from a list that is pre-loaded in the device’s firmware. This means that the Oyster can be shipped world-wide without requiring specialist setup for SIMs.		

Notes:

* IP67 rating subject to device sealed correctly. Refer to training video for guidance.
** Recommended Batteries. It is vital that correct batteries are used; else, estimated product life will not be achieved. The batteries need to have a high enough pulse current rating to for each device type.
*** Trip Estimates based on 20 trips/week @ 30min/trip or 15 trips/week @ 45min/trip as a rough guide.

Recommended Batteries

Device	Modem	Battery Type	Device Peak Pulse Current	Recommended Battery
Oyster2	4G Cat-M1/Nb-IoT	LiFeSO2	500mA	Energizer Ultimate Lithium
		LTC	250mA	Green Energy ER14505M
	2G	LiFeSO2	1800mA	Energizer Ultimate Lithium
		LTC	900mA	Titus ER14505M
Remora2	4G Cat-M1/Nb-IoT	LTC	400mA	ER34615 (4G only due to low Peak current)
	2G	LTC	1300mA	SAFT LSH20 D Cell FANSO ER34615M EVE ER34615M
Yabby	4G Cat-M1/Nb-IoT	LiFeSO2	400mA	Energizer Ultimate Lithium
	2G		1300mA	

LiFeSO2 = Lithium Iron Disulfide
LTC = Lithium Thionyl Chloride (LiSOCl2)

If you cannot find the recommended battery, please ensure that the battery you source have a rated peak pulse current exceeds the **Device Peak Pulse Current** from the table above.
For LTC batteries, use the **"spiral"** type construction.

Certification

Device	Modem Type	ICASA	CE	RED	RCM	FCC	PTCRB	Anatel	Telstra	AT&T
Oyster2	4G Cat-M1/NB-IoT	N	S	**Y**	Y	**Y**	P	N	Y	B
	2G	T	S	**Y**	N	N	P	N	N	N
Remora2	4G Cat-M1/NB-IoT	N	S	**Y**	Y	B	P	N	Y	B
	2G	**Y**	S	**Y**	N	N	P	N	N	N
Yabby	4G Cat-M1/NB-IoT	N	S	**Y**	Y	B	P	N	Y	B
	2G	T	S	**Y**	N	N	P	N	N	N

Key:
Y = Yes | B = Busy | P = Planned | S = Testing completed & Self declaration | T = Testing completed & approval in progress | N = No, will not do or no plans to do

Part Numbers

PART NO	DESCRIPTION
U0029MT	Remora Asset Tracker V2 2G
U0028MT	Remora Asset Tracker V2 4G (LTE Cat-M1)
U0027MT	Oyster Asset Tracker V2 2G
U0026MT	Oyster Asset Tracker V2 4G (LTE Cat-M1)
U0031MT	Yabby Asset Tracker 2G
U0030MT	Yabby Asset Tracker 4G (LTE Cat-M1)